Towards a standardized way of reporting physicochemical data and process metrics for transaminase reactions

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Transaminase catalyzed transformations have the potential of becoming a standard tool for the synthesis of optically pure chiral amines [1]. Many studies show the wide span of substrate acceptance and the excellent enantioselectivity that can be achieved [2]. However, many times critical information about the system and the reaction performance is lacking in the otherwise very useful scientific reports at laboratory scale. For instance, although K equilibrium is one of the key determining factors for the design and scale-up any transaminase process, it is very rarely reported [3]. In order to build a broader understanding of the correlation between the underlying physicochemical properties of the system (e.g. substrate volatility) and the process performance (e.g. gram of product per gram of biocatalyst), it would be highly beneficial if these data were reported, and ideally in a consistent manner. In this poster we will suggest data that preferably should accompany reports on transaminase reactions, and also the underlying motivation for why these data are important.

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